

CHANGES TO SPECIFICATION

This application is a continuation of application No. 08/763,847, filed December 4, 1996, [~~allowed~~] **now Pat. No. 5,841,886**, which is a continuation of application No. 08/512,993, filed August 9, 1995, now abandoned, which is a continuation-in-part of [~~each of applications 08/436,098 (now Patent 5,636,292), 08/436,099 (now Patent 5,710,834), 08/436,102 (now Patent 5,748,783), 08/436,134 (now Patent 5,748,763), and 08/438,159 (co-pending), each filed May 8, 1995. This application is also~~] **application No. 08/436,134, now Pat. 5,748,763, which is** a continuation-in-part of copending application 08/327,426, filed October 21, 1994, **now Pat. 5,768,426**, which is a continuation-in-part of application 08/215,289, filed March 17, 1994, now abandoned, which is a continuation-in-part of application 08/154,866, filed November 18, 1993, now abandoned.

CLEAN COPY OF PENDING CLAIMS

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1. A security document comprising:
a substrate;
text printed on the substrate;
a graphic carried by the substrate, the graphic conveying a visual impression to human viewers thereof;
the graphic additionally being steganographically encoded to secretly convey plural bits of digital data recoverable by computer analysis of said graphic, said steganographic encoding being locally scaled in amplitude in accordance with visible features of said graphic.

2. The document of claim 1 in which the graphic is an image.
3. The document of claim 2 in which the image is a photographic image.

4. The document of claim 1 wherein said digital data corresponds to at least part of said printed text.

5. The document of claim 1 wherein said digital data serves as an index into a registry containing additional information.

6. The document of claim 1 wherein said steganographic encoding does not visibly interrupt said graphic.

7. The document of claim 1 wherein said steganographic encoding adds noise to the graphic, said noise not being perceptible as a representation of said plural-bit digital data except by computer analysis, wherein the encoded graphic does not appear to convey digital data to human viewers thereof.

8. The document of claim 1 in which the printed text and the steganographically encoded plural bits of digital data cooperate to verify authenticity of the security document.

9. The document of claim 8 in which the graphic is an image.

10. The document of claim 9 in which the image is a photographic image.

11. The document of claim 8 wherein said digital data corresponds to at least part of said printed text.

12. The document of claim 8 wherein said digital data serves as an index into a registry containing additional information.

13. The document of claim 8 wherein said steganographic encoding does not visibly interrupt said graphic.

14. The document of claim 8 wherein said steganographic encoding adds noise to the graphic, said noise not being perceptible as a representation of said plural-bit digital data except by computer analysis, wherein the encoded graphic does not appear to convey digital data to human viewers thereof.

15. An identity document according to claim 8.

16. An identity document according to claim 1.

17. A photo ID document comprising:

a photograph on a substrate, the photograph portraying an individual;
multi-bit information steganographically encoded within said photograph, said steganographic encoding not visibly interrupting the photograph;
wherein said encoding of the photograph serves to add noise thereto, but this noise is not perceptible as a representation of said multi-bit information except by computer analysis, wherein the encoded photograph appears to convey only an image of the individual to human viewers thereof.

Please add new claims as follows:

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--18. A photo identification document, characterized by steganographic encoding representing multi-bit data, said multi-bit data being computer-discernable from analysis of visible light scan data, but the existence of said encoded data not being evident to human observers of the document.

19. A plastic document according to claim 18.

20. A driver's license according to claim 18.

21. A plastic-encased driver's license according to claim 18.

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22. The photo identification document of claim 18, wherein the steganographic encoding includes:

providing the multi-bit data and at least one noise signal to a computing device;
receiving from said computing device a noise-like output signal; and
additively applying the noise-like output signal to the document.

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23. The photo identification document of claim 22 in which the encoding is locally scaled in amplitude in accordance with visible features on the document.

24. The photo identification document of claim 18 in which the encoding is locally scaled in amplitude in accordance with visible features on the document.

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25. A method of detecting alteration of a printed document, the printed document including a photograph of an individual, the method including:

providing the document with supplemental data, the supplemental data being below a threshold of human perception when represented in the document;
distributing the document with the supplemental data;
acquiring a suspect document;
determining, by reference to supplemental data expected to be found in the document, whether the suspect document has been altered.

26. The method of claim 25 in which the supplemental data can be discerned by computer analysis of visible light scan data corresponding to said document.

27. The method of claim 25 which includes providing the document with supplemental data by adding a noise-like signal thereto, wherein the noise-like signal is tailored in correspondence with a feature of the document so as to better hide the supplemental data.

28. The method of claim 25 in which the alteration is the substitution of new data into said document.

29. A method of determining alteration of a document that includes a photograph of an individual, characterized by sensing an auxiliary signal at different regions of the document, said auxiliary signal not being apparent to a human observer, and, by reference to the signal so-sensed, identifying at least one region as having been altered.

30. The method of claim 29 that includes generating data related to the amplitude of said auxiliary signal at different locations.

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31. The method of claim 30 that includes generating a spatial map of the amplitude of the auxiliary signal.

32. The method of claim 29 in which the alteration comprises the substitution of new data.
